

US EPA ARCHIVE DOCUMENT

EFFICACY STUDY REVIEW

by Kevin J. Sweeney, Entomologist - IB

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8/19/03

To: Patricia Quarles

Date: August 19, 2003

EPA Reg. No. or File Symbol: 64405-1

Product Name: Bora-Care

Registrant: Nisus Corporation

PM: Linda Arrington, Acting PM10

Action: 306

Submission No. S629947 DP: D288699

Chemical: Disodium Octaborate Tetrahydrate - 40.0% Type: (I)

OPPTS Guideline: 810.36 to the extent that applies.

Action: review studies to add drywood termites and non-wood infesting pests. Registrant wants to add concrete and drywall surfaces.

Entomologist' Recommendations:

1. Drywood termites can be added to the preventive treatment section only. The submitted data did not address remedial control situations.
2. The label should refer to control of wood decay rots, molds, and fungi only. Remove reference to "other molds and fungi". Remove algae. Revise the list of fungal pests to include only wood decay organisms. Please refer to the EPA Office of Air web site for information on fungi species of health importance and other acceptable EPA control methods. PR Notice 2002-1 should also be consulted.
3. Remove drywall, concrete, brick, block and insulation sites from the label. Treatment of molds, fungi and other organisms residing on these surfaces may represent public health uses that may require review by the OPP Antimicrobials Division in consultation with the EPA Office of Air. These surfaces treatment are not important to the control of wood decaying organisms and go beyond the scope of controlling these pests.

4. The study submitted on cockroaches offered no new information. It is well known that boric acid can kill cockroaches when they contact it on surfaces and/or ingest it. The claim to treat wall voids to help prevent cockroach infestations is acceptable.
5. What data can be cited for treatment of foam insulation? How can you drill foam insulation and pressure treat it for protection from pest damage?
6. I note that the DOT equivalent retention rate (0.084 lbs./cubic foot) stated on page 10 of the labeling is well below the American Wood Preserver's Association recommendation of 0.28 lbs. DOT equivalent/cubic foot. How does the surface treatment permeate the entire piece of lumber? The submitted data (not reviewed here but for 64405-5) show that the surface treatment only permeates to a depth of only a few mm. Also, the DOT equivalent as outlined by AWPA is usually achieved by pressure treatment, not surface applications.
7. Revise the directions for remedial treatments to provide more detail on injection and pressure treatment of infested wood. Why is the treatment of infested wood on page 8 heading IV A - different from wood treatment for heading IV C "Buildings on Slabs"?
8. Remove references to application of other products. What data support the use of this product to wood to be placed in contact with soil as described on page 9 heading XI? Two years data are required as described in OPPTS Product Performance Guideline 810.3600. Submit these data or remove any treatment made to wood that will come into contact with soil.
9. To the PM and Reviewer: The directions for non-food use and mixing etc. should be at the beginning of the "Directions for Use" section for this label. The Boric Acid RED referred to a Food Additive Tolerance under 40 CFR Part 185 and label language for food handling establishments. However, this tolerance was not established in the 40CFR. Therefore, I suggest the addition of the following statements: "Do not use in edible product areas of food processing plants or on counter tops and other surfaces where food is prepared. Do not use in serving areas where food is exposed. Do not contaminate feed, water, or food. Do not use to treat lumber that will contact soil or be exposed to leaching by weather."

Studies:

Five studies were submitted and two apply directly to the submission of this new label and three are reviewed here. The other two are more applicable to the registrant response to my previous review for EPA Reg. No. 64405-5. They will be reviewed with the product 64405-5 label in a separate document.

MRID 45841201 Prevention of Colony Foundation by *Cryptotermes brevis* and Remedial Control of Drywood Termites (Isoptera: Kalotermitidae) with Selected Chemical Treatments. By Rudolf Scheffrahn et al.

MRID 45841202 Field Evaluation of Bora-Care Treated Wood to Subterranean Termite Feeding

and Tubing by T.L. Amburgey and L. Williams.

MRID 45841203 Determining the Efficacy of Bora-Care for Improving Resistance of Building Products to Subterranean Termites and Decay Fungi by T.L. Amburgey and L. Williams.

MRID 45867401 The Ability of Borate Treated Wood to Provide Control of Non-Destroying Pests.

MRID 45867402 Efficacy of Superficial Borate and DDAC Treatments Against Mold by Jeff Lloyd.

Reviews:

MRID 45841201 Prevention of Colony Foundation by *Cryptotermes brevis* and Remedial Control of Drywood Termites (Isoptera: Kalotermitidae) with Selected Chemical Treatments. By Rudolf Scheffrahn et al.

The study is acceptable and supports preventive treatment claims for drywood termites only. Remedial claims are not supported by these data.

MRID 45867401 The Ability of Borate Treated Wood to Provide Control of Non-Destroying Pests.

The study reinforces what is already known about boric acid/DOT efficacy regarding cockroaches. The product is one tool that will help prevent cockroach infestations but it will not prevent cockroach colonization of an area by itself.

MRID 45867402 Efficacy of Superficial Borate and DDAC Treatments Against Mold by Jeff Lloyd.

I did not review this study because of the references to public health claims and inclusion of some organisms that might be considered public health pests. Instead, the registrant should revise the list of wood decay fungi to include only those species that damage wood. This product should not be applied without a review and approval by the Antimicrobial Division and the Office of Air to control non-wood decay fungi and molds. If the registrant requests this use pattern, the study needs to be resubmitted. No claims related to public health should be approved without further review. The registrant should review the Office of Air web site for more information on control of molds and fungi.